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No. 18046

ON THE

EFFECTS OF MUSIC

IN CURING AND PALLIATING

DISEASES.

BY SAMUEL MATHEWS,
OF VIRGINIA.

18246

“ There is a charm, a pow’r, that sways the breast,
“ Bids every passion revel—or be still;
“ Inspires with rage, or all our cares dissolves,
“ Can soothe distraction, and almost despair:—
“ That power is Music.” ARMSTRONG.

18246

PHILADELPHIA

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LAND OFFICE
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THE LAND OFFICE
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THE RECEIPT OF THE ABOVE
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TO THE SENATE AND ASSEMBLY.

ALBANY, N. Y.,
JANUARY 1, 1875.

AN INAUGURAL DISSERTATION,
FOR
THE DEGREE
OF
DOCTOR OF MEDICINE;

SUBMITTED
TO THE EXAMINATION
OF THE
REVEREND JOHN ANDREWS, D. D. PROVOST,
(PRO TEMPORE;)

THE
TRUSTEES, AND MEDICAL PROFESSORS
OF THE

UNIVERSITY OF PENNSYLVANIA,

ON THE 21st DAY OF APRIL, 1806.

THE UNIVERSITY OF CHICAGO

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TO JOHN HAMILTON, ESQ.

H. B. M. CONSUL, &c. NORFOLK, VIRGINIA,

THE FOLLOWING PAGES

ARE INSCRIBED,

AS A TRIBUTE OF GRATITUDE,

BY HIS AFFECTIONATE FRIEND,

AND MUCH OBLIGED

S. MATHEWS

TO THE HONORABLE

THE SENATE OF THE UNITED STATES

IN SENATE

AND HOUSE OF REPRESENTATIVES

OF THE UNITED STATES

OF AMERICA

IN SENATE

AND HOUSE OF REPRESENTATIVES

TO DOCTOR PHILIP BARRAUD,
OF NORFOLK, VIRGINIA.

Let me assure you, Sir, it is with the greatest satisfaction I thus publicly make my acknowledgment of the advantages I have derived from your instruction, both in the character of a Medical Luminary, and as a warm friend.

In presenting you this first fruit of my professional acquirements, I am so far from being flattered with a hope that it will, from its worth, be entitled to your perusal, that I blush to own it, and regret that the time allotted for its preparation, and my inability combined, preclude me from making a return less disproportioned to the merit of an experienced and affectionate preceptor, and to the obligations of his grateful friend and Pupil,

THE AUTHOR.

"Sic ut quimus, quando ut volumus non licet."

ON THE EFFECTS OF MUSIC, &c.

FROM the subject I have selected for the following Thesis, it may be expected of me to enter on the consideration of the mutual influence and dependance which exist between the body and mind; but as it will be read by none who are ignorant of their intimate connection, it would be impeaching their understanding, and imposing on their patience to spend any time on it: I therefore propose, before proceeding to speak of music as influential in the cure or palliation of diseases, to make a remark or two only on the nerves, in both a sound or healthy, and in a diseased state.

In their healthy state, the nerves may be compared to a well tuned string instrument in the hands of a skilful performer; where all its motions, or vibrations are conducted with regularity and harmony, and where the tones drawn accord precisely with the desire and expectation of the musician. In a very different state do we find the nervous system in disease—here (continuing my simile) we behold the instrument by improper management, or accident, with some of its strings relaxed, and

others emitting tones far from corresponding with the wish of the performer here, from striking those keys which formerly charmed by their concordance and harmony; we are assailed by harsh dissonant vibrations which tend to fatigue, without imparting the slightest pleasurable sensations.

Let us now take a cursory view of one or two diseases in which the nerves are affected, and observe how far the above comparison will hold good.

In a healthy state do we not find the voluntary muscles obedient to the Will, and performing all their functions with regularity and ease? how widely different do they appear in the disease of Chorea, where there is irregular and convulsive action of the parts affected, when under the operation of the Will. Again—in perfect health, I would ask what two senses impart greater satisfaction and delight to man than do those of Seeing and Hearing? yet in Phantasm, how distressing is their operation. In this disease, we observe impressions made on the senses above mentioned, conveyed to parts of the brain not accustomed to vibrate with them, and thus produce false perceptions: here precisely the same action takes place in the brain, as does in the disorganized instrument. In the first, the part formerly acted on has lost its power of reaction, or emits perceptions so feeble as not to be observable: and the part of the impression not received as usual by its proper seat of action, passes by, and is exerted on the next weakest part, from which the false perception arises. In the second, or instrument, by striking a key whose corresponding strings are relaxed, we either receive no tone, or a very

feeble one; at the same time, the force applied to the key will be so powerful as to displace the relaxed string, and exert its influence on the adjoining; thereby producing *diseased action* or discord.

M. de Mairan, in the Memoirs of the Academy of Sciences for 1737, speaking of the medicinal powers of Music, reasons in the following manner: "It is (says he) from the mechanical and involuntary connection between the organs of hearing and the consonance excited in the outward air, joined to the rapid communication of the vibrations of this organ to the whole nervous system, that we owe the cure of spasmodic disorders, and of fevers attended with delirium and convulsions."—From the above quotation it would appear, that the medicinal effect of our remedy depended entirely on its mechanical operation; but I flatter myself, there are very few of the present day who will assert that the rams' horns, used as musical instruments at the siege of Jericho, would prove as efficacious in the cure or removal of diseases as the flute, violin, or other modern instrument.

That music is at times of service by its mechanical action, I will not deny; but that its sole effect is from its mechanical action is an opinion I can by no means assent to; and hope from the remarks I shall make, aided by my gleanings from the works of respectable authors, to prove that the operation of Music on the body is twofold, in the cure of diseases. First, as it affects those who are musically inclined, or "have good ears for music" as it is termed: And secondly, as it respects,

“The man that hath no music in himself,
Nor is not mov'd with concord of sweet sounds.”

In the first, there should subsist an exact unison between the tones employed, and the state of the nerves, otherwise, the application will have an injurious tendency. If, in irregular, or diseased action of the nerves, the application of sounds, not harmoniously arranged, or not suited to the patient's condition be made, the malady will be increased. Here the effect may be compared to that arising from an unskilful performer's thumping on an instrument out of tune; but on the contrary, if we observe, in the administration of it, that regularity and order which constitute harmony, and also attend to the state of the patient, we shall find by its influence, and the *attraction* which it has for corresponding motions in the nervous system, that it will at length overcome the diseased action, and establish regularity and concordance in them.

To substantiate my assertion with respect to the *necessity* of harmony, I have now before me an interesting narration given by Baglivé in his cases of the effects of Music in curing the disease induced by the bite of the Tarantula, in which he informs us that the patient, after shewing evident signs of its happy influence, suddenly relapsed by the instrument getting out of tune; nor could he again be affected, till the performers restored *harmony*, by tuning their instruments, when he was a second time relieved, and finally cured.

From this case, as well as from Burney's General History of Music, we receive convincing proofs of the ancient and effectual use of our remedy in the cure of

diseases. Mr. Burney informs us, that Music “was used as a remedy by the ancient Egyptians, Hebrews, Greeks, and Romans, not only in acute but chronical disorders.” He also tells us that “not only Mr. Burette,* but many modern philosophers, physicians, and anatomists, as well as ancient poets and historians, have believed that Music has the power of affecting not only the mind, but the nervous system, in such a manner as will give a temporary relief in certain diseases, and at length even operate a radical cure.”—

In the following pages I intend to consider the effects of Music, first, in Diseases of the Mind, and here shall confine myself to its influence in the Hypochondriacal, and Maniacal States of Fever: and secondly, shall mention a few facts which will shew its efficacy in the low diseases of the body. In this part I shall confine myself wholly to its mechanical action.

According to the above arrangement I shall commence with the consideration of Music, in Hypochondriasis. And here, it will be proper to observe, that it is not my intention to enter into a detail of the symptoms and characters of the diseases to be spoken of, further than is absolutely necessary to the introduction of the remedy under consideration.

In Hypochondriasis, where the mind is constantly engaged in contemplation on one subject, and where every interruption, which is not calculated to excite agreeable emotions, is received with displeasure, the exhibition of Music as a remedy should be attended with the utmost care and nicety; and we should be par-

* One celebrated not only as a physician but as a musician.

ticular in having the notes accommodated to the excitability of the patient's mind. With this precaution, we may gradually raise the tunes from those we judge proper in the commencement, to those of a more lively nature; and imperceptibly draw the patient's mind from itself, (if I may be allowed the expression) and thus obtain for him, a temporary respite from his mental anguish. This is not mere speculation, or theory without support; nor is it intended to place the subject of the present thesis in a more favourable light than it deserves, by shewing that it should be used with greater nicety than is really necessary, but it is a caution that should always be attended to.

The following case related by Professor Rush,* being directly in confirmation of the above opinion, I beg leave to subjoin. A gentleman in the room next to the lodging of an Hypochondriac, intending to amuse himself with playing on the flute, accidentally commenced with a lively tune; which so enraged the Hypochondriac, that he rushed into the room, seized the instrument from the performer's hands, and broke it over his head.—How differently would that man have acted, had the tune been accommodated to the state of his nerves—Had the above advice been in this case pursued, he would not only have listened, and that with pleasure, but would have exclaimed,

That strain again ;—it had a dying fall :
 O, it came o'er my ear, like the sweet south,
 That breathes upon a bank of violets,
 Stealing and giving odour——

Although we have from history many striking proofs of the efficacy of our remedy when properly administered, yet we often have the mortification of finding our most sanguine hopes of success baffled, and our labour lost. This however should not deter us from making further, and varied trials. Thus if the application of instrumental music of different kinds has not the desired effect, we should resort to vocal. The validity of this observation will appear, when we consider how varied the opinions of mankind are with respect to the excellency of different instruments.

We often find persons, who are charmed with the sound of one, and shewing perfect indifference to all others. Again—we find persons delighted with the melody of the human voice, and not affected, or moved in the smallest degree, by the most harmonious concert.

We are informed by the biographer of Mr. Cowper, the English poet, that he in a fit of melancholia could be roused by no other means than the Musical voice of Mr. Paley's son, a youth of about twelve years of age.

Having finished the consideration of the mode of administering, and the effects of music in hypochondriasis, I next proceed to speak of it in

TONIC MANIA.

In this, however, I shall be very brief, as I consider it as a higher grade only of the same disease, and of consequence, nearly the same remedies applicable, with an additional degree of care and circumspection in using them.

In this disease, as we often find the mind in a state so highly excitable as to render it necessary to preclude

the slightest intercourse with the patient, the stimulus of conversation even of the keeper must be prohibited until the morbid excitability is either reduced by judicious management, or has been expended by the furious exertions of the unhappy sufferer. From the above remarks it is evident that the application of music must be attended with great hazard; and want of success will often be the result of our attempts to relieve. Yet if we credit Holy Writ, it would appear from the following passage, that Music was regarded by the Hebrews as a common cure for madness: "Let our Lord now command thy servants who are before thee, to seek out a man who is a cunning player on an harp, and it shall come to pass, when the evil spirit from God is upon thee, he shall play with his hand, and thou shalt be well."*

It is not a little surprising, in my opinion, that the beneficial effects of Music should have been so well known in such remote ages† in relieving mental diseases, and yet so little attention is paid it in an era in which every science is rapidly advancing to perfection.

If I mistake not, however, our illustrious Professor of the Institutes and Practice of Medicine has long wished to introduce this remedy into the Pennsylvania Hospital; where, I am confident, it would prove, under his judicious management, a conspicuous rivet in the shield of our profession; but we have to regret that certain circumstances render the adoption of such a measure impracticable.

Under our second head, or the consideration of the mechanical action of Music, I shall view it as sound

* Samuel, chap. xvi, ver. 16.

† 1063 years before the birth of Christ.

only, without supposing it to act in any other manner than as an external stimulant.

As "life is the effect of certain stimuli acting upon the sensibility and excitability, which are extended in different degrees over every external and internal part of the body;" and as "sound has an extensive influence upon human life," I flatter myself, the application of this last in the low diseases of the body, may be attended with success. My reasons for this belief are the following:

1 From the many cases to be met with of persons being resuscitated, by the stimulating action of the shrieks of their friends, and surrounding relations.

2 From the practice of the Malays, who are in the habit of beating a drum before the doors of persons ill of fevers, and which I think must be often attended with success, or they would not continue the custom. And,

3 From the happy effect of the firing of cannon on board of a French ship of war, in which there were many in this low state.

Sound also alleviates the pains of death, when as a remedy it is ineffectually administered. Here its stimulus counteracts that of the pain; and if it be greater will entirely subdue it. This fact may be explained by calling to mind a law of the animal economy, which is, that "no two impressions of unequal power can be felt at the same time, but that the lesser must yield to the action of the greater."

And now that I have finished my observations on Music, as tending to alleviate human misery, I think it necessary to say something by way of apology, for their many imperfections, and the brevity and superficial manner with which I have passed over the subject.

I feel however a consolation in the reflection that the reader will view the production with lenity, when he is informed, that the Author had but ten days for the selection of his subject, and preparing it for the press.

It would have been highly gratifying to me to have entered on the effect of Music on the brute creation. On this head the field is both extensive and fertile: here also its powers are equal, not to say superior, to its influence on man. Shakspeare, in his Merchant of Venice, gives us the following lines in support of its magic power on that class.

“ For do but note a wild and wanton herd,
 “ Or race of youthful and unhandled colts,
 “ Fetching mad bounds, bellowing and neighing loud,
 “ (Which is the hot condition of their blood,)
 “ If they but hear perchance a trumpet sound,
 “ Or any air of Music touch their ears,
 “ You shall perceive them make a mutual stand;
 “ *Their savage eyes turned to a modest gaze,*
 “ *By the sweet power of Music.*”

Nor indeed are its effects confined to the human species and brute creation, if we are to place confidence in the writings of many authors; thus Pope informs us:

—————“ in air the trembling *Music* floats,
 “ And on the winds triumphant swell the notes ;
 “ So soft, though high, so loud, and yet so clear,
 “ *Ev’n listening angels lean’d from heaven to hear*” —

Many other quotations and facts might be given of its action, which the want of time only prevents.

Med. Hist.

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